

## PLEASURE OR DISPLEASURE: A SOLUTION FOR CUSTOMERS' SATISFACTION

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### ABSTRACT

*In this era, customer satisfaction is one of the most important factors on which, organizations make their future decisions, we provide the service and develop innovative solution to help our clients improve their customer service, performance and their customer's satisfaction.*

**KEYWORDS:** *Chatbot, Customer Satisfaction, Real-time, Serverless & Virtual Assistant*

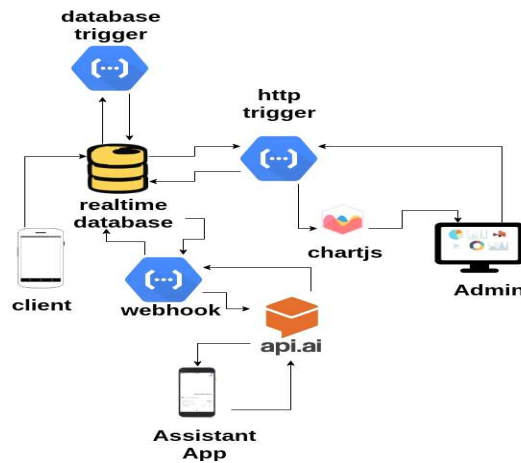
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### INTRODUCTION

Pleasure or displeasure is a mobile Application, which is used to evaluate the customer's satisfaction on the basis of smiley terminal and their reviews, and it's also able to entertain customers about the service and generate the intelligent analytics report, which consists of the categories of area, where, customer are not satisfied. At the user end, it has four quick options for review that either satisfied or not. If the customer is not satisfied, the customer gives the option for his dissatisfaction and optional message box appears for the reason of dissatisfaction, where customer submits his feedback in the form of voice or text. At the admin panel, it has generated cloud based Real Time Analytics report, which shows the customer's reviews in the form of data visualization and categorizes the reasons in different areas, which will be very helpful for organization to easily understand the reasons through analytical reports[3].

The Project, Pleasure or Displeasure also has conversational bot, which only understands English language for communication; it's a virtual assistant, deployed on Google Assistant. The project always required Internet connection, as it is evaluating the customer on the basis of NLP (Natural Language Processing) API. The bot will be able to understand the different accent; it works on the admin side and fetches the quick result and the reasons of dissatisfaction from the cloud, which will be very helpful for organization to easily understand the reasons through virtual Assistant[1].

## METHODOLOGY



**Figure 1: System Architecture**

The modules of Pleasure or Displeasure have been carefully selected after analysis of the requirements. The project has been mainly divided into two main modules, which are described below.

### Major Module

#### Customer Feedback

The customers' feedback module work on customers' feedback in the form of smiley and also for reasons. This module is further divided into two sub or minor modules. The reason for dissatisfaction is given either in voice form or in text form.

#### Assistant Module

The assistant pleasure or displeasure module is voice base module, in this, if the admin drive the car or cooking in a kitchen or busy in another activity, they receive feedback of the customers with specific location in percentage, also form the reasons for customer dissatisfaction. [4]

#### Admin Module

In this module the admin login and receive the number of customer's review and their ratio or satisfaction and dissatisfaction in the form of visual charts. [2]

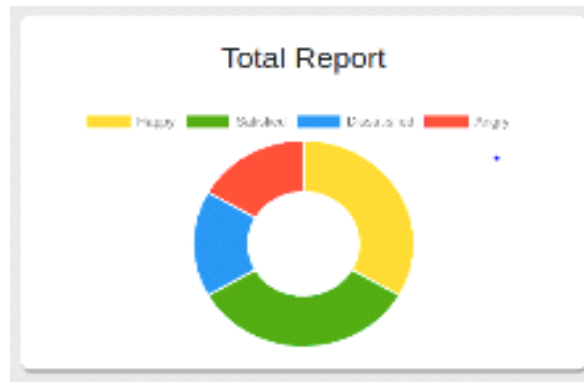
### Sub Modules

#### Voice Module

In this module, users give feedback in voice form, speech to text api is use in this module. In this, customers give their feedback in the form of satisfaction and dissatisfaction.

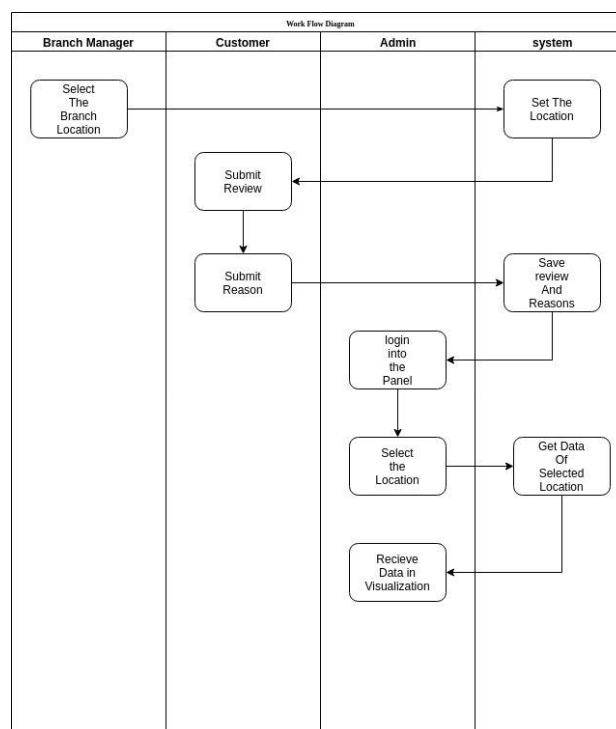
#### Analytical Reports

In this module, admin has the rights to receive the customer's review data in the form of visual charts and bars, which are the easiest way to evaluate the number of customers' reviews, and the reports, are generated on hourly, daily, weekly and monthly basis. [6]



**Figure 2: Analytical Report**

## Workflow



**Figure 3: Workflow Diagram**

In the workflow of project, first the Branch Manager of a particular branch selects the location of his Branch on the Smiley Terminal app, then the app is available for the customers reviews, if any of the customer submit reviews and feedback, the app pushes the data to the cloud in a real time, and display the 'thank you' message to the customer. At the Admin panel, when admin login into his profile and select any of the branch location, the data appears in the real time in the form of visual graph and charts. [7]

## IMPLEMENTATION

The technology implemented consists of a brief knowledge about what and which tools were used in the development of this project.

## Development Tools

The project is cross platform application supporting both Android and IOS devices. We use visual studio code as our IDE to develop whole project, we have three different applications; one is customers review app, which deploy on the client side on any branch location, second we have web app, which is an admin panel to monitor all the branches from any remotely centralized location, and the third one is assistant app to provide quick notification to admin about their customers. All these apps are developed on the cloud based - state of the art technology [5]

## Frontend Technology Stack

The technology stack we used to develop on the client side is as follows:

- React Native
- Reactjs
- Charts.js
- Expo cli
- Actions on Google
- Material UI
- Native Base
- Redux Architecture

## Back End Technology Stack

The technology stack we used to develop on the client side is as follows:

- Firebase Real-time Database
- Google Cloud Functions
- Api ai
- NLP api

## CONCLUSIONS

In this era, customer satisfaction is one of the most important factors, on which organizations make their future decisions. This forms the base for every firm that wants their customers to be happy and satisfied, and also wants to know how much of their customers are satisfied or not, and the reasons for the dissatisfaction from their service. After a vast research and hard work, we developed an application that provides solution for customer's satisfaction, which are very helpful for the organizations. So, the pleasure or displeasure applications are the real time and users friendly applications. In this application, customers give their feedback on the basis of smiley faces, and for certain reasons, customers also used voice and text on feedback reports generated in real time manner. So, our application is on latest edge technology (voice form, assistant app, real time graph generated). The conclusion to the development of the whole project remains to be the fact that, the application developed will make an impact on organizations and also for the customers, who interact with

organizations.

The future scope of the project will consists of addition of some other modules:

**Development nlp for Urdu Language:**In near future, we will add a module that is worked on Urdu nlp, so that no one will have to face language issue.

**Get Feedback on the Basis of Customers Mood:** Another future module of our project will face detection in this. Our application will detect the mood of the customers that he/she is happy or not from our services. If the customers are in angry mood, our application would understand that the customers are dissatisfied, and if happy, it would be understood as the customers are satisfied.

**For Others Countries Languages:**And for other countries, we will work on Google different nlp to facilitate all.

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